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For Other Than A Small Entity

Docket No. CF/006



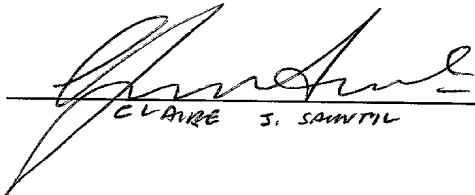
Applicant(s) : Stuart A. Fraser et al.  
For : SYSTEMS AND METHODS FOR ELECTRIC  
TRADING THAT PROVIDE INCENTIVES AND  
LINKED AUCTIONS

EXPRESS MAIL CERTIFICATION

"Express Mail" mailing label number EK709407935US.

Date of Deposit June 14, 2000.

I hereby certify that this transmittal letter and the other papers and fees identified in this transmittal letter as being transmitted herewith are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated above and are addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

  
CLAIRE J. SAMTICH

Assistant Commissioner  
for Patents  
Washington, D.C. 20231

TRANSMITTAL LETTER FOR  
ORIGINAL PATENT APPLICATION

Sir:

Transmitted herewith for filing are the  
[X] specification; [X] claims; [X] abstract;  
[X] unexecuted declaration and power of attorney, for the  
above-identified patent application.

Also transmitted herewith are:

[X] 7 sheets of:

[ ] Formal drawings.

[X] Informal drawings. Formal drawings will be  
filed during the pendency of this application.

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[ ] Certified copy(ies) of application(s)

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(country)	(appln. no.)	(filed)
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(country)	(appln. no.)	(filed)
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from which priority is claimed.

[ ] An assignment of the invention to \_\_\_\_\_  
\_\_\_\_\_.

[ ] A check in the amount of \$40.00 to cover the recording fee.

[ ] Please charge \$40.00 to Deposit Account No. 06-1075 in payment of the recording fee. A duplicate copy of this transmittal letter is transmitted herewith.

[ ] An associate power of attorney.

The filing fee has been calculated as shown below:

FOR	NUMBER FILED	NUMBER EXTRA	RATE	FEE
BASIC FEE				\$690.00
TOTAL CLAIMS	46	- 20 = 26	X \$ 18 =	\$468.00
INDEPENDENT CLAIMS	4	- 3 = 1	X \$ 78 =	\$ 78.00
[ ] MULTIPLE DEPENDENT CLAIMS			+ \$260 =	\$ 0.00
TOTAL				<u>\$1,236.00</u>

- [X] A check in the amount of \$1,236.00 in payment of the filing fee is transmitted herewith.
- [ ] This application is being filed unaccompanied by a filing fee. The appropriate filing fee will be paid in response to a Notice to File Missing Parts, pursuant to 37 C.F.R. § 1.53(f).
- [X] The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 C.F.R. § 1.16, in connection with the paper(s) transmitted herewith, or credit any overpayment of same, to deposit Account No. 06-1075. A duplicate copy of this transmittal letter is transmitted herewith.
- [ ] Please charge \$\_\_\_\_\_ to Deposit Account No. 06-1075 in payment of the filing fee. A duplicate copy of this transmittal letter is transmitted herewith.

Respectfully submitted,



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## CORRESPONDENCE INFORMATION



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	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2
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Title Line One:: SYSTEMS AND METHODS FOR ELECTRIC TRADING  
Title Line Two:: THAT PROVIDE INCENTIVES AND LINKED AUCTION  
Title Line Three:: IONS  
Total Drawing Sheets:: 7  
Formal Drawings?: No  
Application Type:: Utility  
Docket Number:: CF/006  
Secrecy Order in Parent Appl.?: No

Representative Customer Number:: 1473  
Registration Number One:: 40934

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This application is a::      NON PROV. OF PROVISIONAL
> Application One::         60/139344
  Filing Date::            06-15-1999

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Source:: PrintEFS Version 1.0.1

SYSTEMS AND METHODS FOR  
ELECTRONIC TRADING THAT PROVIDE  
INCENTIVES AND LINKED AUCTIONS

Background of the Invention

5           The present invention relates to systems and  
methods for electronic trading that provide incentives  
and linked auctions. More particularly, the present  
invention relates to systems and methods for electronic  
trading that provide incentives for gathering orders,  
10 making markets, and submitting block orders, and that  
enable linking of multiple trading auctions.

          In recent years, electronic trading systems  
have gained wide spread acceptance for trading a wide  
variety of goods, services, and financial instruments.  
15 For example, electronic trading systems have been  
created which facilitate the trading of financial  
instruments and commodities such as stocks, bonds,  
currency, futures, oil, gold, pork bellies, etc. As  
another example, online auctions on the Internet have  
20 become popular markets for the exchange of services and  
both new and used goods. In one embodiment of systems  
for electronic trading of financial instruments, for  
example, a first trader may submit a "bid" to buy a  
particular number of 30 Year U.S. Treasury bonds at a  
25 given price. In response to such a bid, a second trader

may "hit" the bid in order to indicate a willingness to sell bonds to the first trader at the given price.

Alternatively, the second trader may submit an "offer" to sell the particular number of the bonds at the given price, and then the first trader may "take" or "lift" the offer to indicate a willingness to buy bonds from the second trader at the given price.

Advantages to trading electronically include enabling traders to remain anonymous for at least a portion of the trading process, facilitating trading among traders at different physical locations, and improving the accuracy of documenting trading activity. Nevertheless, as with any method for trading, electronic trading needs to be sufficiently efficient to prevent the costs of trading electronically from overshadowing its benefits, and sufficiently liquid in order to truly reflect the market price of items being electronically traded.

One way in which efficiency and liquidity can be improved in any trading system is by increasing the volume of orders in the trading system, increasing the amount of time during which a market is available for orders to be executed, and enabling items to be simultaneously traded independently of each other. Thus, it would be desirable to provide systems and methods which increase the volume of orders in the trading system, increase the amount of time during which a market is available for orders to be executed, and enable items to be simultaneously traded independently of each other.

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Summary of the Present Invention

It is therefore an objective of the present invention to provide systems and methods which increase the volume of orders in the trading system, increase the amount of time during which a market is available for  
5 orders to be executed, and enable items to be simultaneously traded independently of each other.

The above and other objects of the invention are realized by providing systems and methods for  
10 electronic trading that provide incentives for gathering orders, making markets, and submitting block orders, and that enable linking of multiple auctions. In order to give a trader using the systems and methods of the present invention an incentive to gather orders, make  
15 markets and submit block orders, these systems and methods may first determine if the trader qualifies for an incentive. This determination may be made in real-time and may be based upon one or more characteristics, such as price, size, duration, etc., of orders submitted  
20 to the trading system by the trader. Once the trader has been determined as being eligible for one or more incentives, the incentives that are provided may include reduced transaction costs, cash payments, priority or exclusivity in trading, self execution of transactions,  
25 creation of linked auctions, etc. The invention may also permit a trader to view information about the incentive earned by that trader periodically or in real time.

With regard to linked auctions, before an  
30 order is eligible to be traded in a linked auction, the order is preferably confirmed as qualifying to be auctioned in such a manner. Once an order is confirmed as qualifying for its own auction, a linked auction is created and preferably linked to another auction based



upon a characteristic of the order, such as price. In addition to being linked, information from each auction may be made available to traders in the other auctions.

### Brief Description Of The Drawings

5           The above and other objects and advantages of the invention will be apparent upon consideration of the following detailed description, taken in conjunction with the accompanying drawings, in which like reference characters refer to like parts throughout, and in which:

10           FIG. 1 is a block diagram of one embodiment of  
a hardware arrangement in accordance with the present  
invention;

FIG. 2 is a flow diagram of a main process in accordance with one embodiment of the present invention;

15                FIG. 3 is a flow diagram of a process for  
qualifying a trader for incentives for gathering orders  
in accordance with one embodiment of the present  
invention;

FIG. 4 is a flow diagram of a process for  
20 qualifying a trader for incentives for making markets in  
accordance with one embodiment of the present invention;

FIG. 5 is a flow diagram of a process for allocating incentives to traders in accordance with one embodiment of the present invention;

25                   FIG. 6 is a flow diagram of a process for  
processing block orders in accordance with one  
embodiment of the present invention;

FIG. 7 is a flow diagram of a process for linking separate auctions of items in accordance with one embodiment of the present invention.

Detailed Description of the Invention

As stated above, the present invention provides systems and methods for electronic trading that provide incentives to traders for gathering orders, making markets, and submitting block orders, and that enable linking of multiple auctions. Although the present invention is described herein as providing incentives to "traders" and being used by traders, it should be apparent that the term "trader" is meant to broadly apply to any user of a trading system, whether that user is an agent acting on behalf of a principal, a principal, an individual, a legal entity (such as a corporation), etc., or any machine or mechanism that is capable of placing and/or responding to orders in a trading system.

Preferred embodiments of the systems and methods of the present invention are now described in greater detail in connection with FIGS. 1-7. In the examples which follow, trading of U.S. Treasury bonds, notes, and bond futures are used to illustrate various aspects of the present invention. Trading of these instruments may be accomplished in both typical and block sizes delineated in prices relative to par. For example, a price may be quoted as \$123 1/32 or \$123.03125 per \$100,000 face value for 8% U.S. Treasury Bond futures for delivery in September 2000 or \$123,031.25 of futures contract value. Due to display limitations in typical trading workstations, a price of \$123 1/32 may be displayed as "123.01" where the tenths and hundreths digits represent the number of 32nds. A 32nd is frequently referred to as a "tick". When a market is displayed for trading of such bond futures, the market may be shown as "101.02-03 5x25" where "101.02" is the bid price, "101.03" is the offer price,

5 million is the bid size, and 25 million is the offer size.

Notwithstanding that the present invention is illustrated with respect to trading of bonds, notes, and bond futures, it should be noted that the systems and methods of the present invention are equally applicable to the trading of any type of financial instruments, commodities, goods, services, etc.

Turning first to FIG. 1, an example of hardware 100 that may be used to implement one embodiment of the present invention is shown. As illustrated, hardware 100 may include one or more local workstations 102 and one or more remote workstations 104 that may be used by traders to view trading data and enter trading commands. Workstations 102 and 104 may be any suitable means for presenting data and, in preferred embodiments of this invention, accepting input. For example, workstations 102 and 104 may be personal computers, laptop computers, mainframe computers, dumb terminals, data displays, Internet browsers, Personal Digital Assistants (PDAs), two-way pagers, wireless terminals, portable telephones, etc., or any combination of the same.

To orchestrate trading between traders using workstations 102 and 104, the workstations preferably submit commands to, and receive data to be displayed from, a processor 106. In alternative embodiments, however, workstations may communicate with additional processors, or include processors to orchestrate trading in a distributed fashion without requiring processor 106. Processor 106, and any additional processors, may be any suitable circuitry or devices capable of processing data such as microprocessors, personal

AS shown, processor 106 may be connected to workstations 102 and 104 by networks 108 and 110, respectively. Each of networks 108 and 110 may be any suitable data network for communicating data between workstations 102 and 104 and processor 106, such as a local area network, a wide area network, the Internet, an intranet, a wireless network, a hard wired connection, a dial-up network, etc., or any combination of the same. In an arrangement of hardware 100 without processor 106, workstations 102 and 104 may be linked together by networks 108 and 110 directly.

When used to implement a bid/offer, hit/take trading system as described above, hardware 100 may enable a trader to submit a bid to buy, or an offer to sell, an item at one of workstations 102 and 104. This bid or offer may then be communicated to processor 106, where the bid or offer can be ranked and stored in a bid-offer queue. The ranking may be based upon time of submission, price, or any other suitable criterion. The

Referring to FIG. 2, a process 200 for implementing one embodiment of the present invention in hardware 100 is illustrated. As shown, once process 200 has begun at step 202, a trader may be admitted at step 204. This admission may include verifying the identity of the trader, initializing related accounts of the trader, and/or any other related functions. Next, process 200 may determine whether the trader qualifies for incentives for gathering orders at step 206 (as discussed in greater detail in connection with FIG. 3) and whether the trader qualifies for incentives for making markets at step 208 (as discussed in greater detail in connection with FIG. 4). Although steps 206 and 208 are illustrated as being performed concurrently in process 200, these steps may be performed sequentially and in any order in accordance with the present invention. To a trader to know what incentives have been earned by the trader, the present invention, at step 209, preferably updates a list of incentives that have been earned by the trader and makes that list available to the trader on demand when using one of workstations 102 and 104. Once step 209 has been completed, process 200 receives bids and/or offers as orders at step 210. Next at step 212, process 200 allocates the orders to traders and provides incentives qualified for by the traders (as discussed in greater detail in connection with FIG. 5). For orders that qualify as block orders, process 200 applies block order

trading rules at step 214 (as discussed in greater detail in connection with FIG. 6). For orders that qualify to be traded in a linked auction, process 200 creates and links a new auction for the order to another  
5 auction at step 216 (as discussed in greater detail in connection with FIG. 7). Finally, process 200 performs the appropriate auctions for orders at step 218 and loops back to steps 206 and 208.

Process 200 shown in FIG. 2 is only meant to  
10 illustrate one possible implementation of the present invention. Alternative embodiments may not follow the depicted flow. For example, determinations of whether a trader qualifies for incentives for gathering orders and/or making markets may be made at random intervals  
15 rather than regular intervals as shown in FIG. 2.

Turning to FIG. 3, a process 300 for determining whether a trader qualifies for incentives for gathering orders is illustrated. Gathering orders, or generating order flow, is important in a trading  
20 system because as the number of orders in the system increases, so does the liquidity in the system. As stated above, liquidity in a trading system is important for establishing the true market price for an item to be traded in that system. Determining whether a trader  
25 qualifies for incentives for generating order flow may include satisfaction of one or more of the following criteria:

- (1) that the trader have sufficient credit acceptability;
- 30 (2) that the trader be sponsored by one or more other traders, an exchange, or an exchange's clearing corporation;
- (3) that the trader meet certain value levels; and

(4) that the trader satisfy order placement and cancellation levels.

Determining whether a trader qualifies for an incentive for gathering orders is preferably performed at two times. First, the determination may be performed prior to participation, for example, by verifying credit acceptability or sponsorship by one or more other traders, an exchange, or an exchange's clearing corporation. Second, the determination may be performed during trading, for example, by monitoring, in real-time, the participation levels of bids and offers and the quality of those bids and offers (e.g., duration of time the order is exposed to the market and the frequency of cancellation commands). The latter is important because, for example, a bid order that lasts for only one second may be too short in duration to enable another trader to hit the bid and and therefore tend to create noise on the other trader's display rather than reveal an intention to complete a transaction. This sort of noise should not entitle a trader to an incentive.

The determination of whether a trader qualifies for incentives for gathering orders may also be based upon the type of orders gathered, the time of entry of orders, the volume of entry of orders, the size of entries in the orders, and/or the characteristics of the originators of the orders gathered by the trader. For example, a trader may qualify for different incentives for bids versus orders, and for different incentives when a bid or offer is placed versus when a trade clears. Furthermore, the test used to determine whether a trader qualifies for incentives may be dynamically varied (e.g., based upon market conditions),

and may be particular to a particular trader or group of traders.

5 If a trader fails to meet the necessary  
criteria for receiving incentives, then qualification  
may not be granted or may be revoked. However, if a  
trader does qualify for incentives, the trader may be  
designated as a Qualified Order Gatherer (QOG) and  
provided with incentives that may include various trading  
privileges including reduced or no transaction costs,  
10 payment of a fixed amount of money, transaction based  
payments (e.g., commissions), priority in a bid/offer  
queue, priority or exclusivity to bids/offers, etc.

As stated above, a process 300 for determining  
whether a trader qualifies for incentives for gathering  
15 orders is illustrated in FIG. 3. As shown, once process  
300 has begun at step 302, the process may check the  
credit of the trader at step 304 and the sponsorship of  
the trader at step 306. Credit and sponsorship of a  
trader may be checked only once upon admission of the  
20 trader or may be checked each time process 300 is  
performed in the event that credit and sponsorship  
information is updated in real time. Next, process 300  
may determine at step 308 if the trader is actively  
trading. The criteria used to determine whether a  
25 trader is actively trading may vary. For example, a  
trader may be considered active if it has placed at  
least a minimum number of orders during a window of  
time. Alternatively, a trader may be considered active  
if no more than a predetermined minimum of time has  
30 elapsed since the time that the last order was placed by  
the trader. If the trader is trading, then process 300  
monitors levels of participation and the quality of bids  
and offers at step 310. If the trader is not trading or  
after step 310 has been completed, process 300 assigns a

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qualification rating to the trader at step 312 and terminates at step 314.

FIG. 4 illustrates one embodiment of a process 400 for determining whether a trader qualifies for incentives for making markets in accordance with the present invention. To determine whether a trader qualifies for these incentives, preferred embodiments of the invention may confirm that the trader has been making bids and offers that have at least a minimum designated volume and that have a spread (difference in price between bid and offer) that meets or beats one or more parameters. For example, to be entitled to incentives, a trader may be required to provide substantially continuous bid and offer prices having spreads that fall within a given set of limits. The limits, in this example, may require a one tick (i.e., 1/32 or 0.03125) price spread for bids and offers over the course of 50% of the trading day. Alternatively, a trader may qualify for incentives for merely making one side of a market (e.g., the bid or offer side).

Obviously, in accordance with the present invention, a wide variety of tests or combination of tests may be used to determine whether a trader qualifies for incentives for making markets, including monitoring the price, size, duration, and cancellation of bids and offers submitted by the trader, the credit worthiness of the trader, etc. Moreover, this test or these tests may be applied to a trader only once, periodically, or in real time.

In preferred embodiments, a trader meeting the market making qualification test may then be entitled to incentives and designated as a Designated Primary Market Maker (DPMM), and a trader failing to meet this test may not be granted incentives and DPMM status or may have an

Incentives may include various trading privileges including reduced or no transaction costs, payment of a fixed amount of money, transaction based payments (e.g., commissions), priority in a bid/offer queue, priority or exclusivity to bids/offers, etc.

25           As another example, a DPMM may be provided  
26           with the ability to initiate private auctions for orders  
27           as an incentive for making markets. In preferred  
28           embodiments of the invention, these auctions may be  
29           linked to a main auction as described in connection with  
30           FIG. 7.

The DPMM may also be given control over the option to execute transactions so that the DPMM retains a percentage of the orders for execution or passes them on to an auction process in the trading system. The

invention is not limited to any one order allocation scheme and can be dynamic in nature, e.g., orders may be retained when the market is active. To facilitate the option chosen, the auction process in the trading system is preferably linked to an auction process of the DPMM. While the auction process in the trading system may use an interactive trading system, wherein bids and offers that are placed may be hit and taken, respectively, to initiate trades, the DPMM may invoke a different matching algorithm (or any other suitable method for trading) for its own customers' orders.

As stated above, a process 400 for determining whether a trader qualifies for incentives for making markets is illustrated in FIG. 4. After process 400 has begun at step 402, the process monitors bids, offers, and spreads of a trader at step 404. Next, at step 406, process 400 determines if the trader qualifies as a DPMM. If the trader does not qualify, incentives may not be granted or may be revoked and process 400 terminates at step 414. If the trader does qualify as a DPMM, however, process 400 next determines at step 408 whether the DPMM is entitled to an incentive. If the DPMM is not entitled to an incentive, process 400 terminates at step 414. If the DPMM is entitled to an incentive, process 400 may then give the trader statuses such as reduced or no transaction cost status at step 410 and trade execution status at step 412 to facilitate receipt of the corresponding incentive. Naturally, other statuses for incentives may additionally or alternatively be granted in accordance with the present invention. Once these statuses have been given, process 400 terminates at step 414.

After a trader has been determined as qualifying for incentives for either gathering orders or

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5 (e.g., the remaining 40%).

How incentives are allocated to traders concurrently entitled thereto may be a function of trade size, time of day, trader type, order type, execution performance, etc., or any combination of the same.

One example of a process for allocating incentives to traders in accordance with the present invention is illustrated in FIG. 5. As shown, once process 500 has begun at step 502, the process retrieves the QOG qualification rating and DPMM statuses of a trader in question. The QOG qualification rating may be determined by a process such as process 300 which is described above and illustrated in FIG. 3, and the DPMM statuses may be determined by a process such as process 400 which is described above and illustrated in FIG. 4. Next at step 506, process 500 determines if the trader qualified for incentives as a DPMM. If the trader did qualify for one or more incentives as a DPMM, then process 500 provides the corresponding incentives to the trader at step 508. However, if the trader did not qualify for incentives or after a DPMM incentive has been allocated to the trader, process 500 then determines at step 510 if the trader qualified for incentives as a QOG. If the trader did qualify for one or more incentives as a QOG, then process 500 provides the corresponding incentives to the trader at step 512. Finally, if the trader did not qualify for incentives or after a QOG incentive has been allocated to the trader, then process 500 terminates at step 514.

Turning to FIG. 6, a process 600 for processing block orders in accordance with one embodiment of the present invention is illustrated. Block orders are orders that may be traded outside the normal market for that type of order, typically because of the size of the order. For example, when a first trader desires to trade an extraordinarily large size of bonds, that trader may be permitted to submit an order requesting that another trader bid or offer their best price for those bonds rather than requiring that the first trader submit a bid or offer order for the bonds. In this way, the block order is entitled to preferential treatment because of its size.

For an order to qualify as a block order, a variety of tests may be performed on the order. For example, the order may have to be for a certain instrument, for at least a certain size, for at least a certain minimum or at most a maximum price, etc. Once an order qualifies as a block order, the order may then be entitled to preferential treatment. In addition to qualifying orders as block orders, the present invention may also apply delineators to the block order to control the price range, size range, time components (e.g., a minimum period for which the block must be available to be hit/taken), etc. of the order.

For example, a price range delineator may only allow a trade for a block order at a particular time to be consummated between prices of 101.01 and 101.02. As another example, upper and lower bounds may limit the range associated with the spread for a block order between the best bid (highest bid) and best offer (lowest offer) for similar items. As a more particular example, the present invention may generate a lower bound and an upper bound that are one tick below and one

tick above, respectively, the minimum one tick spread. In the example above, assume the best bid was 101.01 and the best offer was 101.02, for a spread of 0.01. The upper bound would then be 101.03 and the lower bound  
5 would be 101.00. Setting the upper and lower bound in this way has the effect of widening the permissible range within which a DPMM could execute a block trade. Further to the above example, if an order came into a DPMM to buy \$25 million of the most recently auctioned  
10 U.S. Treasury notes while the best bid and best offer were 101.01 and 101.02, respectively, for \$5 million on each side, then the DPMM could fill the \$25 million order directly at a price of 101.03 since the \$25 million order would be a qualified block order.

15 As stated above, one example of a process for processing block orders in accordance with the present invention is illustrated in FIG. 6. As shown, once process 600 has begun at step 602, the process determines at step 604 whether the order qualifies as a  
20 block order. As mentioned above, this determination may be based upon the order instrument, price, size, etc. If the order does qualify as a block order, process 600 determines if any delineators apply to this order at step 606, otherwise process 600 will terminate at  
25 step 614. If the order does qualify as a block order and no delineators apply to the order, then the order is designated as a block order at step 612 and process 600 terminates at step 614. If the order does qualify as a block order and delineators do apply to the order,  
30 however, the delineators are then determined at step 608. Next, process 600 determines if the order complies with the delineators at step 610. If the order does not comply, then process 600 terminates at step 614. Otherwise, the order is designated as a block

order at step 612 and process 600 terminates at step 614.

If after process 600, an order is designated as a block order, then the order may be treated as a block in a subsequent auction process such as that illustrated in step 218 of FIG. 2.

As mentioned above, liquidity and transaction volume can be enhanced by allowing multiple simultaneous buy/sell transactions to take place should the corresponding market situation arise. By allowing more than one transaction or auction process, efficiencies in the trading system can be achieved.

For example, assume that a first trader and a second trader are working-up a trade (i.e., adding additional size to a trade that has already initially been completed as part of an auction) by buying and selling in increments of \$5 million of the most recently auctioned five year U.S. Treasury note. At the same time, a DPMM receives an order to buy \$5 million worth of the same note from a third trader. By granting an incentive to the DPMM, a private auction may be permitted to take place between the DPMM and the third trader at the same time that the auction between the first trader and the second trader is progressing. By allowing two auction processes to coexist within one market, at the same time, greater liquidity and market efficiency can be attained.

Preferred embodiments of the present invention allow multiple auction processes to occur at the same time while linking one or more of their characteristics. 30 These multiple auction processes may all be occurring in processor 106 (see FIG. 1) or some may be occurring in a processor external but linked to processor 106. The particular method for performing each of the multiple



auction processes may be the same or different. For example, the auction process may all use interactive matching, wherein bids and offers are hit and taken, respectively, by an aggressor. Alternatively, one  
5 auction process may use interactive matching while another auction process uses another form of matching. Other types of multiple auction processes may also be linked.

Linking of the multiple auction processes  
10 preferably requires that some aspect of the auction processes other than a main auction process be controlled by the main auction process. For example, the main auction process may control the price range, size range, time components, etc. of transactions in the  
15 other auction processes. As a more particular example, the price range for items in a second auction process may be required to remain within the range of prices in the main auction process. Additionally, information from any auction (e.g., price, size, time, etc.) may be  
20 conveyed to traders in other auctions in preferred embodiments of the present invention. In this way, traders can become aware of the best bids/offers or a concurrent buy or sell in other auction process in which they are not participating.

25 One example of a process for linking multiple auctions in accordance with the present invention is illustrated in FIG. 7. As shown, once process 700 has begun at step 702, the process determines whether one or more orders are eligible for a linked auction at step  
30 704. For example, one or more block orders may be allowed to be traded in linked auctions. If an order is not eligible, the order is made part of a main auction process at step 706 and then process 700 terminates at step 716. Otherwise, a linked auction is initiated at

Although the invention has been described in  
10 detail for the purpose of illustration, it should be  
understood that such detail is solely for that purpose  
and that variations can be made therein by those skilled  
in the art without departing from the spirit and scope  
of the invention except as it may be limited by the  
15 claims which follow.

What is claimed is:

1. A method for electronic trading,  
comprising:
- receiving gathered orders from a trader;  
determining whether the trader qualifies  
5 for an incentive for submitting the gathered orders in  
substantially real time as the gathered orders are  
received;
- providing the incentive to the trader.
2. The method of claim 1, wherein providing  
the incentive to the trader comprises reducing  
transaction costs for the trader.
3. The method of claim 1, wherein providing  
the incentive to the trader comprises waiving  
transaction costs for the trader.
4. The method of claim 1, wherein providing  
the incentive to the trader comprises making a payment  
to the trader.
5. The method of claim 1, wherein providing  
the incentive to the trader comprises paying a  
commission to the trader.
6. The method of claim 1, wherein providing  
the incentive to the trader comprises giving the trader  
a priority in trading.
7. The method of claim 1, wherein providing  
the incentive to the trader comprises giving the trader  
an exclusive opportunity in trading.

8. The method of claim 1, wherein providing the incentive to the trader comprises enabling the trader to execute a trade directly.

9. The method of claim 1, wherein determining whether the trader qualifies for an incentive is based upon a credit rating of the trader.

10. The method of claim 1, wherein determining whether the trader qualifies for an incentive is based upon sponsorship of the trader.

11. The method of claim 1, wherein determining whether the trader qualifies for an incentive is based upon a value level of the orders received from the trader.

12. The method of claim 1, wherein determining whether the trader qualifies for an incentive is based upon cancellations of earlier orders by the trader.

13. The method of claim 1, wherein determining whether the trader qualifies for an incentive is based upon types of orders placed by the trader.

14. The method of claim 1, further comprising determining how to provide the incentive to the trader and another incentive to another trader when both the incentive and the other incentive are due concurrently.

15. The method of claim 1, further comprising enabling the trader to determine incentives that have

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30. The method of claim 16, wherein determining whether the trader qualifies for an incentive is based upon a credit rating of the trader.

31. The method of claim 16, further comprising determining how to provide the incentive to the trader and another incentive to another trader when both the incentive and the other incentive are due  
5 concurrently.

32. The method of claim 16, further comprising enabling the trader to determine incentives that have been earned by the trader in substantially real time as the incentives are earned.

33. A method for electronic trading, comprising:  
determining whether an order qualifies as  
a block order;  
5 determining whether any delineators apply  
to the order;  
applying a delineator to the order; and  
prohibiting the order from not being  
traded as a block.

34. The method of claim 33, wherein the delineator applied is a price range delineator.

35. The method of claim 33, wherein the delineator applied is a size range delineator.

36. The method of claim 33, wherein the delineator applied is a time range delineator.

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37. The method of claim 33, wherein determining whether the order qualifies as a block order is based upon an instrument type of the order.

38. The method of claim 33, wherein determining whether the order qualifies as a block order is based upon a size of the order.

39. The method of claim 33, wherein determining whether the order qualifies as a block order is based upon a price of the order.

40. A method of electronic trading, comprising:

receiving an order from a trader;  
determining whether the order can be  
5 traded in a linked auction;  
forming the linked auction for the order;  
and  
linking the linked auction to a main  
auction.

41. The method of claim 40, wherein linking the linked auction to the main auction comprises controlling a price range in the linked auction based upon a price in the main auction.

42. The method of claim 40, wherein linking the linked auction to the main auction comprises controlling a size range in the linked auction based upon a size in the main auction.

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44. The method of claim 40, further comprising providing information regarding the linked auction to a trader in the main auction.

46. The method of claim 44, wherein the information is a size in the linked auction.

[illegible][illegible][illegible]

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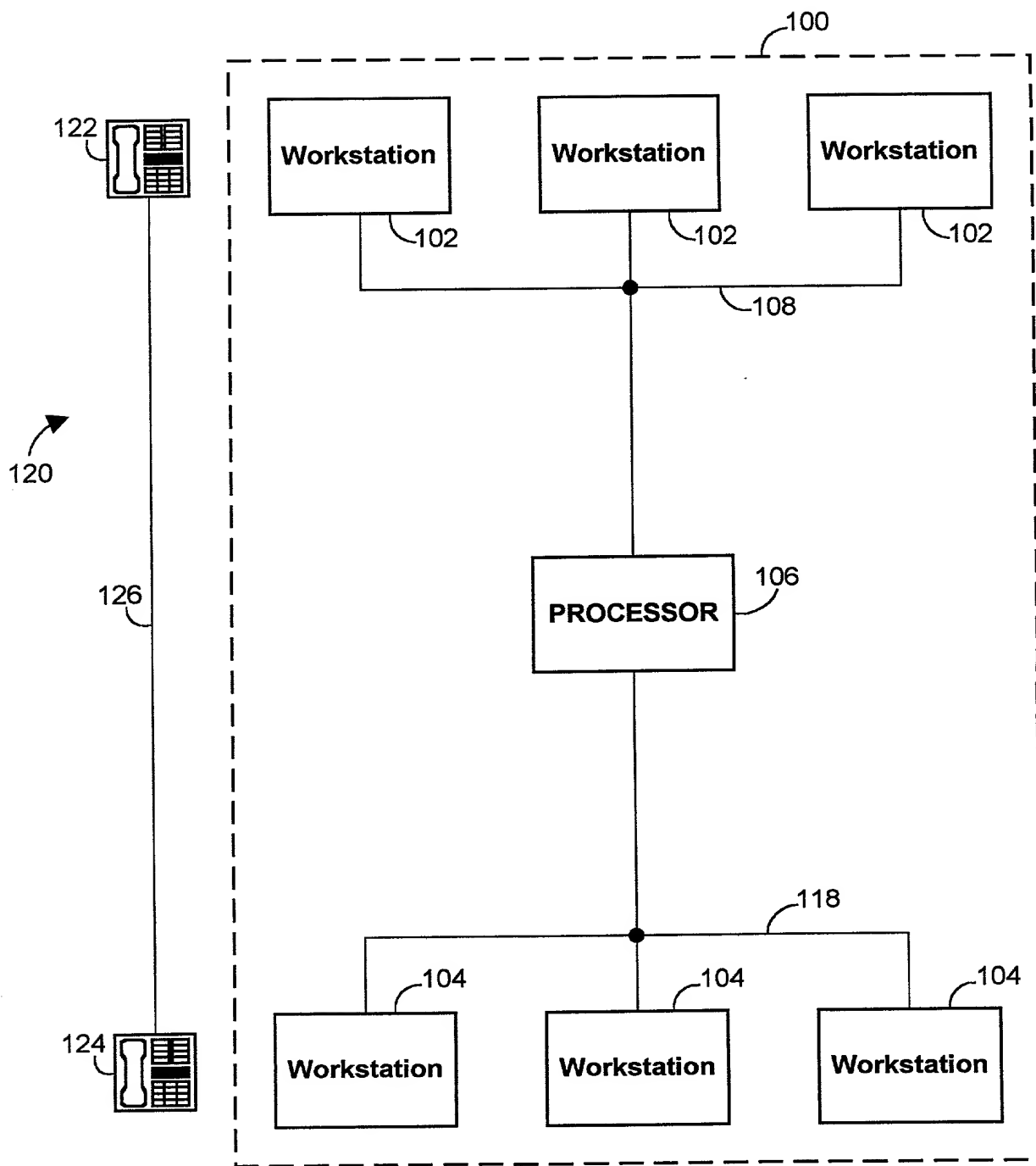


FIG. 1

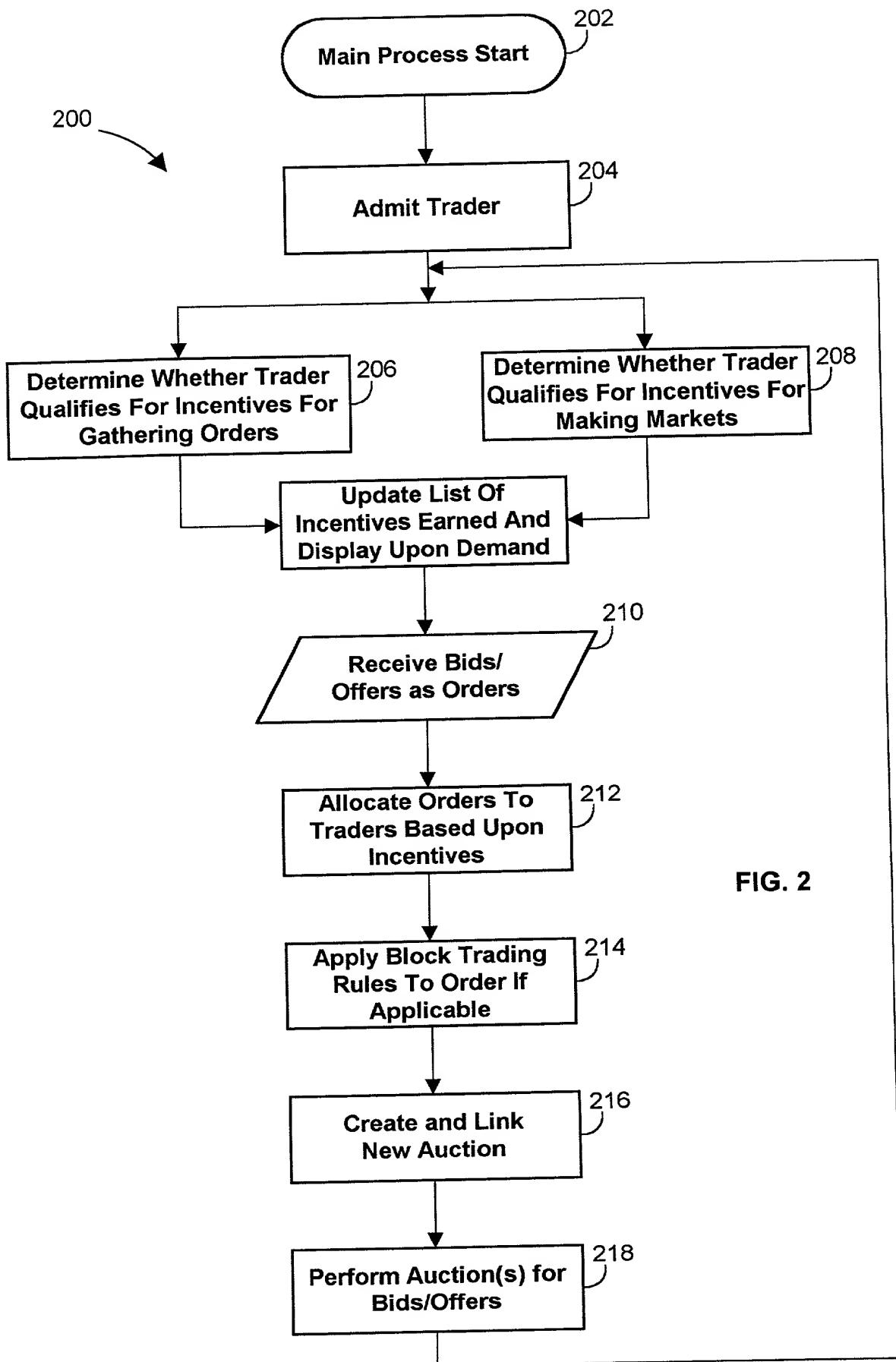


FIG. 2

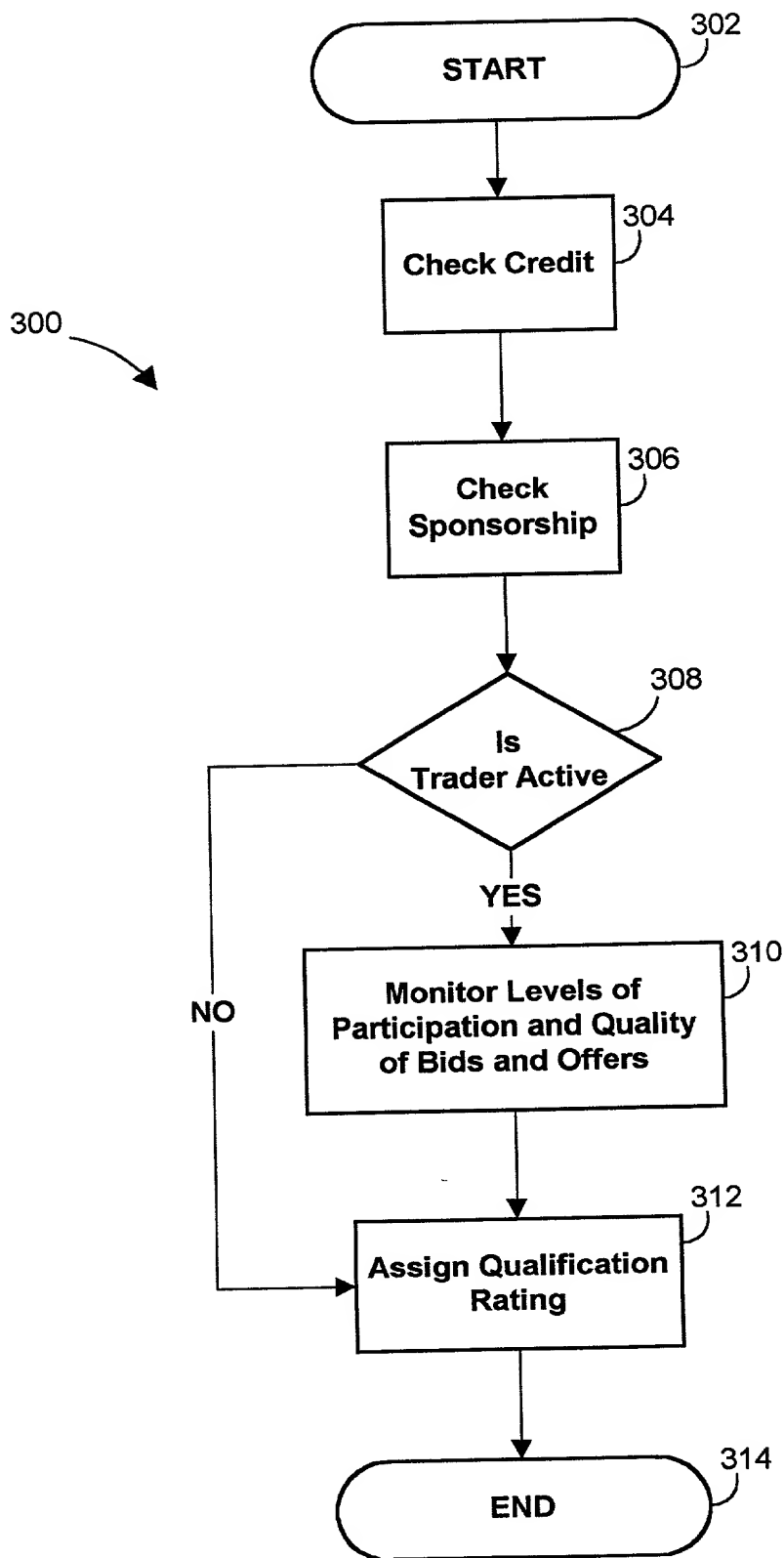


FIG. 3

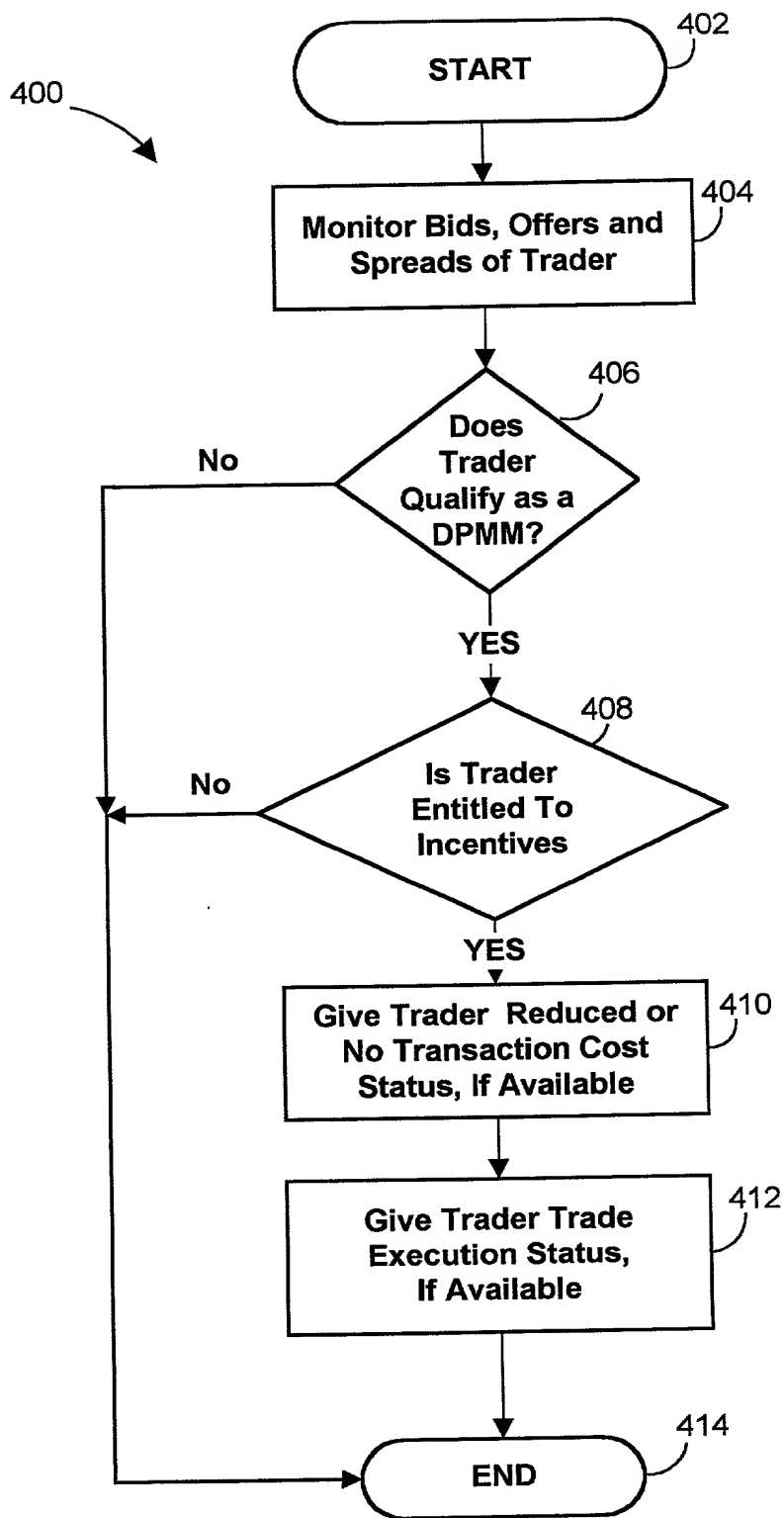


FIG. 4

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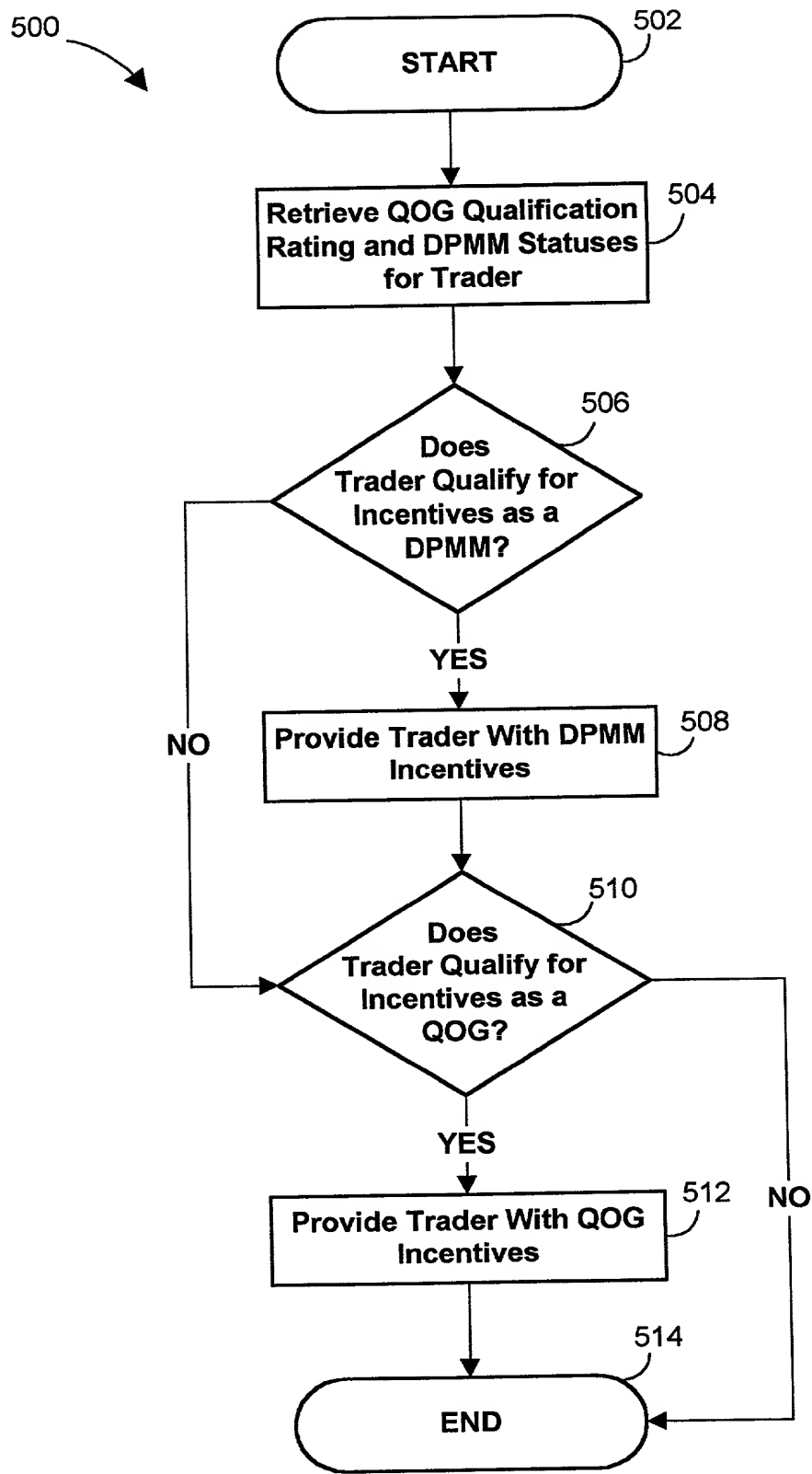


FIG. 5

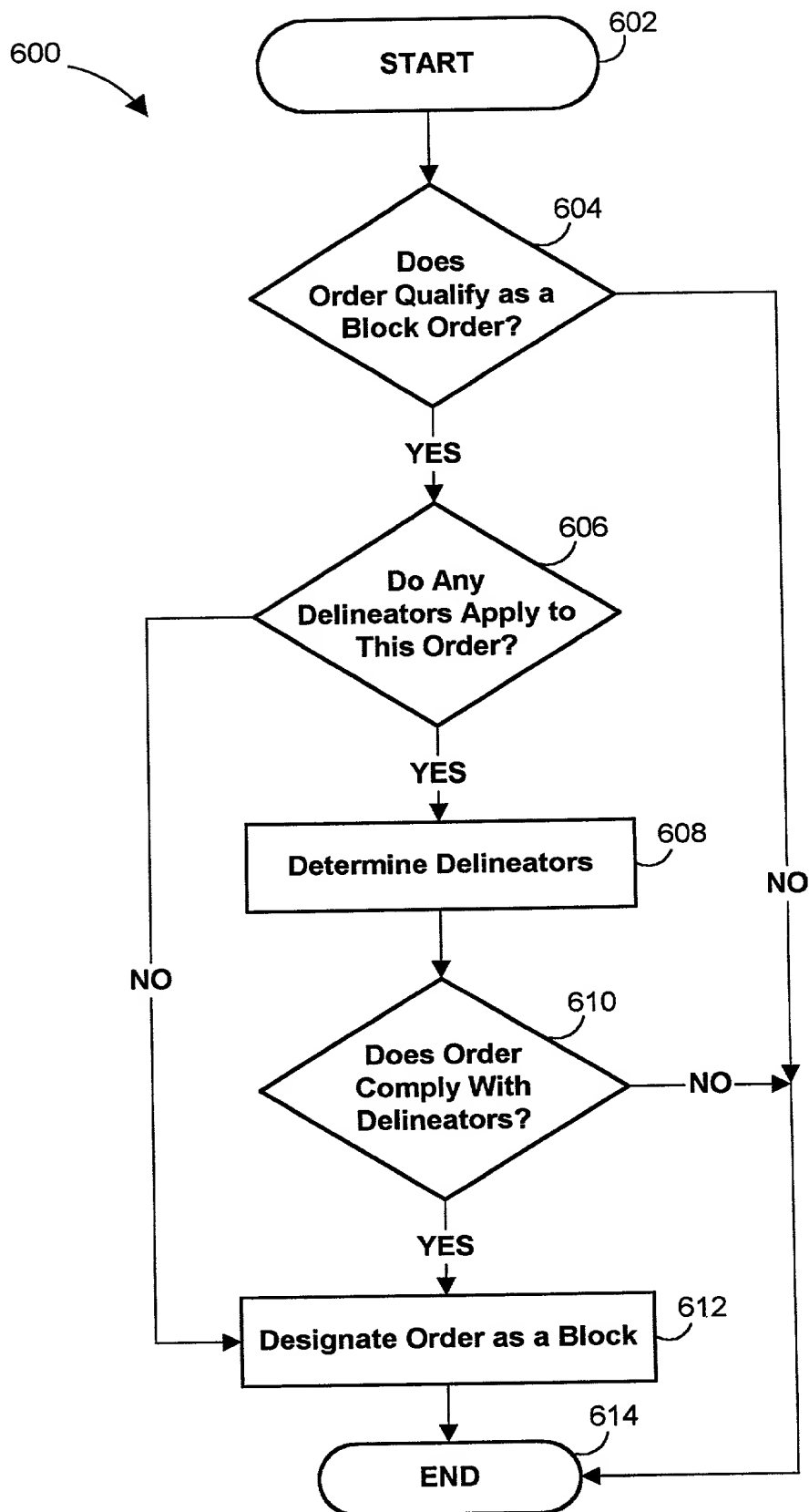


FIG. 6



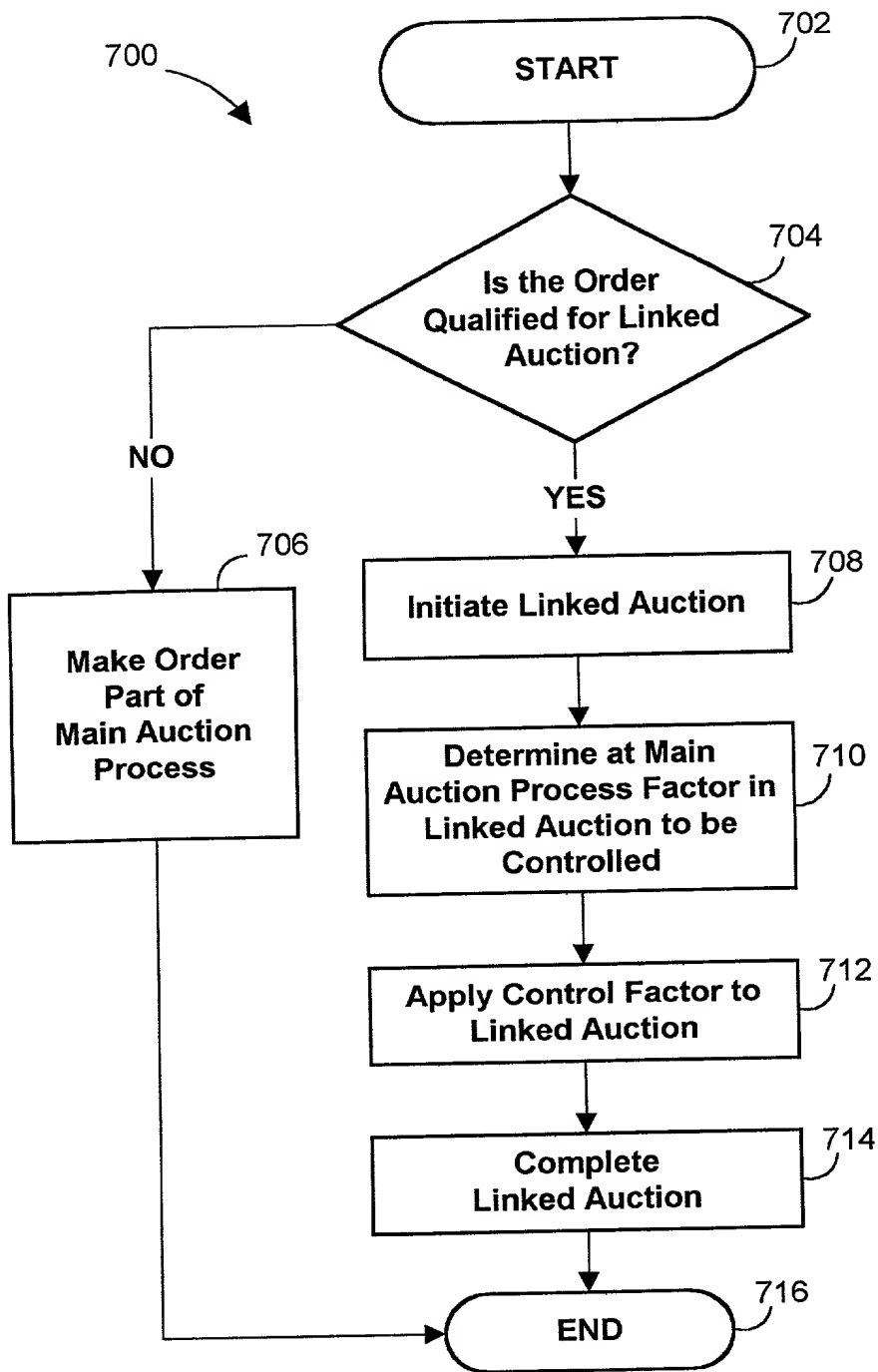


FIG. 7

DECLARATION AND POWER OF ATTORNEY  
FOR PATENT APPLICATION

CF/006

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

SYSTEMS AND METHODS FOR  
ELECTRIC TRADING THAT PROVIDE  
INCENTIVES AND LINKED AUCTIONS

the specification of which

(check [X] is attached hereto  
one)

[ ] was filed on \_\_\_\_\_ as  
Application Serial No. \_\_\_\_\_  
and was amended on \_\_\_\_\_.  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I do not know and do not believe that the invention was ever patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application.

I do not know and do not believe that the invention was in public use or on sale in the United States of America more than one year prior to this application.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known by me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

			<u>Priority Claimed</u>	
			[ ]	[ ]
<u>(Number)</u>	<u>(Country)</u>	<u>(Day/Month/Year Filed)</u>	Yes	No
<u>(Number)</u>	<u>(Country)</u>	<u>(Day/Month/Year Filed)</u>	[ ]	[ ]
			Yes	No

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

<u>60/139,344</u>	<u>June 15, 1999</u>
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known by me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

<u>(Application Serial No.)</u>	<u>(Filing Date)</u>	<u>(Status) (patented, pending, abandoned)</u>
<u>(Application Serial No.)</u>	<u>(Filing Date)</u>	<u>(Status) (patented, pending, abandoned)</u>

As a named inventor, I hereby appoint the following attorneys or agents to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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